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Title of rigorous thesis: **Mucoadhesive polymeric systems with aciclovir**
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ABSTRACT

The aim of this rigorous thesis was the study of the adhesive properties of three polyesters of lactic acid and glycolic acid branched with dipentaerythritol, mannitol and tripentaerythritol. Knowledge of dissolution and dissolution testing are summarized in theoretical part. In the experimental part test of mucoadhesivity was performed in shaking water bath and viscosity of polyesters matrices was measured. Ethylpyruvate as plasticizer to reach suitable viscosity of polyesters matrices was used. Matrices with content 40% polyesters and matrices with content 70% polyesters (or 60% in case of polyester 3T) were prepared. Mucoadhesiveness of polyesters was studied based on the aciclovir release from matrix applied on hydrated mucin from porcine stomachs at 37°C using shaking wather bath. Dissolution medium was phosphate-citrate buffer pH 7,4. The quantitative determination was realized by spectrophotometry and HPLC method. The time of adhesion was increased with increasing content of polyester in matrix. It was proved by reduction of amount released aciclovir. Mucoadhesiveness of polyesters 3M a 3D is lower than of polyesters 3T.

Key words: dissolution, dissolution testing, aciclovir release, polyester, mucoadhesion